



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

10

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,587	01/29/2004	Charles J. Moses	11666.0138NP	6194
47548	7590	04/07/2006		EXAMINER
RICHARD AUCHTERLONIE NOVAK DRUCE LLP 1000 LOUISIANA SUITE 5320 HOUSTON, TX 77002				HEWITT, JAMES M
			ART UNIT	PAPER NUMBER
			3679	
				DATE MAILED: 04/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/767,587	MOSES ET AL.	
	<b>Examiner</b> James M. Hewitt	<b>Art Unit</b> 3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

1) Responsive to communication(s) filed on 20 January 2006.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

4) Claim(s) 1-55 is/are pending in the application.  
 4a) Of the above claim(s) 4, 16-18, 31, 32, 35-37, 40-42, 54 and 55 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-3, 5-15, 19-30, 33-34, 38-39 and 43-53 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 06 October 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 5/27, 1/29.

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

Applicant's election of Species I in the reply filed on 1/20/06 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 4, 16-18, 31-32, 35-37, 40-42 and 54-55 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 1/20/06.

### *Information Disclosure Statement*

The information disclosure statement filed 1/29/04 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because it does not provide the publication date for the documents designated C5-C32 and C34-C36. In addition, the documents designated C1-C3 and C5-C12 have not been considered as the figures therein are indescernible due to photocopy and/or facsimile. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the

time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

The information disclosure statement filed 6/22/04 fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement.

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "37" has been used to designate both the seal ring and the lower portion of the extension pipe. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37

CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The disclosure is objected to because of the following informalities:

In paragraph [00045], line 1, "75" should be "76".

Appropriate correction is required.

### ***Claim Objections***

Claims 1-3, 5-15, 19-30, 38-39 and 43-53 are objected to because of the following informalities:

In claim 1, lines 6-7, it is unclear as to what the phrase "including inner layers near to the extension pipe and outer layers away from the extension pipe" modifies.

In claim 1, lines 7-8, "the inner elastomer layers" lacks proper antecedent basis.

In claim 1, line 8, "the outer elastomer layers" lacks proper antecedent basis.

In claim 2, lines 1-2, "the inner elastomer layers" lacks proper antecedent basis.

In claim 2, line 2, "the outer elastomer layers" lacks proper antecedent basis.

In claim 2, line 3, "the inner elastomer layers" lacks proper antecedent basis.

In claim 2, line 3, "the outer elastomer layers" lacks proper antecedent basis.

In claim 3, lines 1-2, "the inner reinforcement layers" lacks proper antecedent basis.

In claim 3, line 2, "the outer reinforcement layers" lacks proper antecedent basis.

In claim 3, line 3, "the inner elastomer layers" lacks proper antecedent basis.

In claim 3, line 3, "the outer elastomer layers" lacks proper antecedent basis.

In claim 5, lines 1-2, "the inner elastomer layers" lacks proper antecedent basis.

In claim 5, line 2, "the outer elastomer layers" lacks proper antecedent basis.

In claim 6, lines 1-2, "the inner elastomer layers" lacks proper antecedent basis.

In claim 6, line 2, "the outer elastomer layers" lacks proper antecedent basis.

In claim 7, lines 1-2, "the inner elastomer layers" lacks proper antecedent basis.

In claim 7, line 2, "the outer elastomer layers" lacks proper antecedent basis.

In claim 7, lines 2-3, "the inner elastomer layers" lacks proper antecedent basis.

In claim 7, line 3, "the outer elastomer layers" lacks proper antecedent basis.

In claim 8, lines 1-2, "the inner elastomer layers" lacks proper antecedent basis.

In claim 8, lines 2-3, "the outer elastomer layers" lacks proper antecedent basis.

In claim 9, line 2, "the inner elastomer layers" lacks proper antecedent basis.

In line 1 of claims 13-15, 19-30, 38-39, 43-47 and 49-53, "high temperature" should be inserted before "flexible".

In claim 19, line 2, the comma should be deleted for clarity.

In claim 19, lines 2-3, it is unclear as to how the multi-section ring can be characterized as retaining the portion of the heat shield that is inserted into the extension pipe.

In claim 20, lines 2-3, it is unclear as to how the multi-section ring can be characterized being pinned to the portion of the heat shield that is inserted into the extension pipe.

In claim 21, line 2, should "inserted" be "disposed"?

In claim 43, lines 2-3, it is unclear as to how the multi-section ring can be characterized as retaining the portion of the heat shield that is inserted into the extension pipe.

In claim 44, lines 2-3, it is unclear as to how the multi-section ring can be characterized being pinned to the portion of the heat shield that is inserted into the extension pipe.

In claim 45, line 2, should "inserted" be "disposed"?

In claim 48, lines 7-8, it is unclear as to what the phrase "including inner layers near to the extension pipe and outer layers away from the extension pipe" modifies.

In claim 48, line 10, "the inner elastomer layers" lacks proper antecedent basis.

In claim 48, line 10, "the outer elastomer layers" lacks proper antecedent basis.

In claim 53, line 2, "the inner annulus" lacks proper antecedent basis.

In claim 53, lines 2-3, "the bellows" lacks proper antecedent basis.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 5-15, 19-30, 33-34, 38-39 and 43-53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "high temperature" in claims 1-3, 5-12, 33-34 and 48 is a relative term which renders the claim indefinite. The term "high temperature" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

The term "low heat conductivity" in claims 23, 29, 47, 48 and 51 is a relative term which renders the claim indefinite. The term "low heat conductivity" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

The term "high temperature resistant" in claims 26, 48 and 49 is a relative term which renders the claim indefinite. The term "high temperature resistant" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-15, 19-22, 33-34, 38-39 and 43-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over OSI Document entitled "Thunder Horse 12" HPHT SCR FlexJoint Design Summary" in view of OSI Document entitled "Exxon-Erha FlexJoint Preliminary Design Summary".

Page 1 of Appendix A and Figure 5-53 of OSI Document entitled "Thunder Horse 12" HPHT SCR FlexJoint Design Summary" disclose all of the limitations of the invention as claimed in claims 1-3, 5-8, 13-14, 19-22, 33-34, 38 and 43-46 except the limitations of the laminated elastomeric flex element. OSI Document entitled "Exxon-Erha FlexJoint Preliminary Design Summary" discloses the limitations of the laminated elastomeric flex element as claimed in claims 1-3, 5-8, 33-34 and 38. It would have been obvious to modify the flex joint disclosed on Page 1 of Appendix A and in Figure 5-53 of OSI Document entitled "Thunder Horse 12" HPHT SCR FlexJoint Design Summary" with a laminated elastomeric flex element as claimed in claims 1-3, 5-8, 33-34 and 38 in order to shift strain away from the inner elastomer layers to the outer elastomer layers of the flex element and perform well in a high temperature environment.

With respect to claim 10-12, OSI Document entitled "Exxon-Erha FlexJoint Preliminary Design Summary" does not disclose that at least the inner elastomer layers are comprised of efficient vulcanized nitrile butadiene rubber, peroxide cured hydrogenated nitrile butadiene rubber or a fluoroelastomer. Nevertheless, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use either of efficient vulcanized nitrile butadiene rubber, peroxide cured hydrogenated nitrile butadiene rubber and fluoroelastomer as the material for the inner elastomer layers.

With respect to claims 15 and 39, OSI Document entitled "Exxon-Erha FlexJoint Preliminary Design Summary" discloses that the heat shield can be made from PEEK, but it is not clear that glass fiber reinforced PEEK can be used. Nevertheless, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use glass fiber reinforced PEEK as the material for the heat shield.

With respect to claim 47, the examiner takes official notice of the use of a baffle in a bellows joint in order to aid in heat transfer. And it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a baffle

attached to the body and extending into the inner annulus in the vicinity of the bellows and flex element in order to enhance temperature resistance of the joint.

Claims 23-25 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over OSI Document entitled "Thunder Horse 12" HPHT SCR FlexJoint Design Summary" in view of OSI Document entitled "Exxon-Erha FlexJoint Preliminary Design Summary", and further in view of OSI Document entitled "Crazy Horse 12" Import FlexJoint Design".

OSI Document entitled "Thunder Horse 12" HPHT SCR FlexJoint Design Summary" in view of OSI Document entitled "Exxon-Erha FlexJoint Preliminary Design Summary" disclose all of the limitations of claims 23-25 and 48 as described above except that a portion of the extension pipe includes a low conductivity metal (nickel-chromium-iron alloy) and has a cylindrical portion made of steel. OSI Document entitled 'Crazy Horse 12" Import FlexJoint Design" discloses that a portion of the extension pipe includes a low conductivity metal and has a cylindrical portion made of steel. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make a portion of the extension pipe of a low conductivity metal and a cylindrical portion of the extension pipes from steel since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

With respect to claim 24, OSI Document entitled "Crazy Horse 12" Import FlexJoint Design" does disclose that the low conductivity metal is nickel-chromium-iron

alloy. Nevertheless, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use nickel-chromium-iron alloy as the low conductivity metal.

Claims 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over OSI Document entitled "Thunder Horse 12" HPHT SCR FlexJoint Design Summary" in view of OSI Document entitled "Exxon-Erha FlexJoint Preliminary Design Summary", and further in view of Applicant's Admitted Prior Art (paragraph [00035] of the specification).

OSI Document entitled "Thunder Horse 12" HPHT SCR FlexJoint Design Summary" in view of OSI Document entitled "Exxon-Crha FlexJoint Preliminary Design Summary" disclose all of the limitations of claims 26-29 except that the inner annulus is filled with high temperature resistant, substantially incompressible fluid (polyalkylene glycol) and that the bellows is made of low heat conductivity metal. In paragraph [00035], Applicant states that conventional high temperature flexible joint using a bellows is typically filled with polyalkylene glycol. In view of this teaching, it would have been obvious to one having ordinary skill in the art at the time the invention was made to fill the inner annulus with high temperature resistant, substantially incompressible fluid (polyalkylene glycol) in order to enhance temperature resistance of the joint.

With respect to claims 28-29, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a low conductivity metal such as nickel-chromium-iron alloy for the material of the bellows since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

With respect to claim 30, the examiner takes official notice of the use of a baffle in a bellows joint in order to aid in heat transfer. And it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a baffle attached to the body and extending into the inner annulus in the vicinity of the bellows and flex element in order to enhance temperature resistance of the joint.

Claims 49-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over OSI Document entitled "Thunder Horse 12" HPHT SCR FlexJoint Design Summary" in view of OSI Document entitled "Exxon-Erha FlexJoint Preliminary Design Summary", in view of OSI Document entitled "Crazy Horse 12" Import FlexJoint Design", and further in view of Applicant's Admitted Prior Art (paragraph [00035] of the specification).

As described above, OSI Document entitled "Thunder Horse 12" HPHT SCR FlexJoint Design Summary" in view of OSI Document entitled "Exxon-Erha FlexJoint Preliminary Design Summary" disclose all of the limitations of claims 49-53 as described above except that the inner annulus is filled with high temperature resistant, substantially incompressible fluid (polyalkylene glycol) and that the bellows is made of low heat conductivity metal. In paragraph [00035], Applicant states that conventional

high temperature flexible joint using a bellows is typically filled with polyalkylene glycol. In view of this teaching, it would have been obvious to one having ordinary skill in the art at the time the invention was made to fill the inner annulus with high temperature resistant, substantially incompressible fluid (polyalkylene glycol) in order to enhance temperature resistance of the joint.

With respect to claims 51-52, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a low conductivity metal such as nickel-chromium-iron alloy for the material of the bellows since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

With respect to claim 53, the examiner takes official notice of the use of a baffle in a bellows joint in order to aid in heat transfer. And it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a baffle attached to the body and extending into the inner annulus in the vicinity of the bellows and flex element in order to enhance temperature resistance of the joint.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Hewitt whose telephone number is 571-272-7084.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Stodola can be reached on 571-272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JAMES M. HEWITT  
PRIMARY EXAMINER